CLAIMS

1. A semiconductor light-emitting element mounting member comprising: a substrate; and a metal film formed on a surface of said substrate, formed from Ag, Al, or an alloy containing said metals, and functioning as an electrode layer for mounting a semiconductor light-emitting element and/or a reflective layer for reflecting light from a semiconductor light-emitting element; wherein: crystal grains of said metal or alloy forming said metal film have a particle diameter along a surface plane of said metal film is no more than 0.5 μm; and said surface of said metal film has a center-line average roughness Ra of no more than 0.1 μm.

2. A semiconductor light-emitting element mounting member according to claim 1 wherein an adhesion layer and a barrier layer are formed, in sequence, on said substrate, with said metal film being formed on said barrier layer.

3. A semiconductor light-emitting element mounting member according to claim 1 wherein said metal film is formed as an alloy of Ag and/or Al and other metal, a proportional content of said other metal being 0.001 - 10 percent by weight.

4. A semiconductor light-emitting element mounting member according to claim 3 wherein said other metal is at least one type of metal selected from a group consisting of Cu, Mg, Si, Mn, Ti, and Cr.

5. A semiconductor light-emitting element mounting member according to claim 1 wherein a film thickness of said metal film is 0.5 - 3 μm.

6. A semiconductor light-emitting element mounting member according to claim 1 wherein said metal film is formed from Al alone or from an alloy of Al and other metal.

7. A semiconductor light-emitting element mounting member according to claim 1 wherein a thermal expansion coefficient of said substrate is 1×10^{-6}/K - 10×10^{-6}/K.

8. A semiconductor light-emitting element mounting member according to claim 1 wherein a thermal conductivity of said substrate is at least 80 W/mK.

9. A semiconductor light-emitting element mounting member according to claim 1 wherein said semiconductor light-emitting element mounting member is a flat submount.

10. A semiconductor light-emitting device wherein a semiconductor light-emitting element is mounted in a semiconductor light-emitting element mounting member according to claim 1.

11. A semiconductor light-emitting device according to claim 10 wherein output is at least 1 W.